U.S. DEPARTMENT OF ENERGY | Office of Science

# DOE Office of Science User Statistics Update

NUFO Annual Meeting

June 15th, 2016

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# Outline

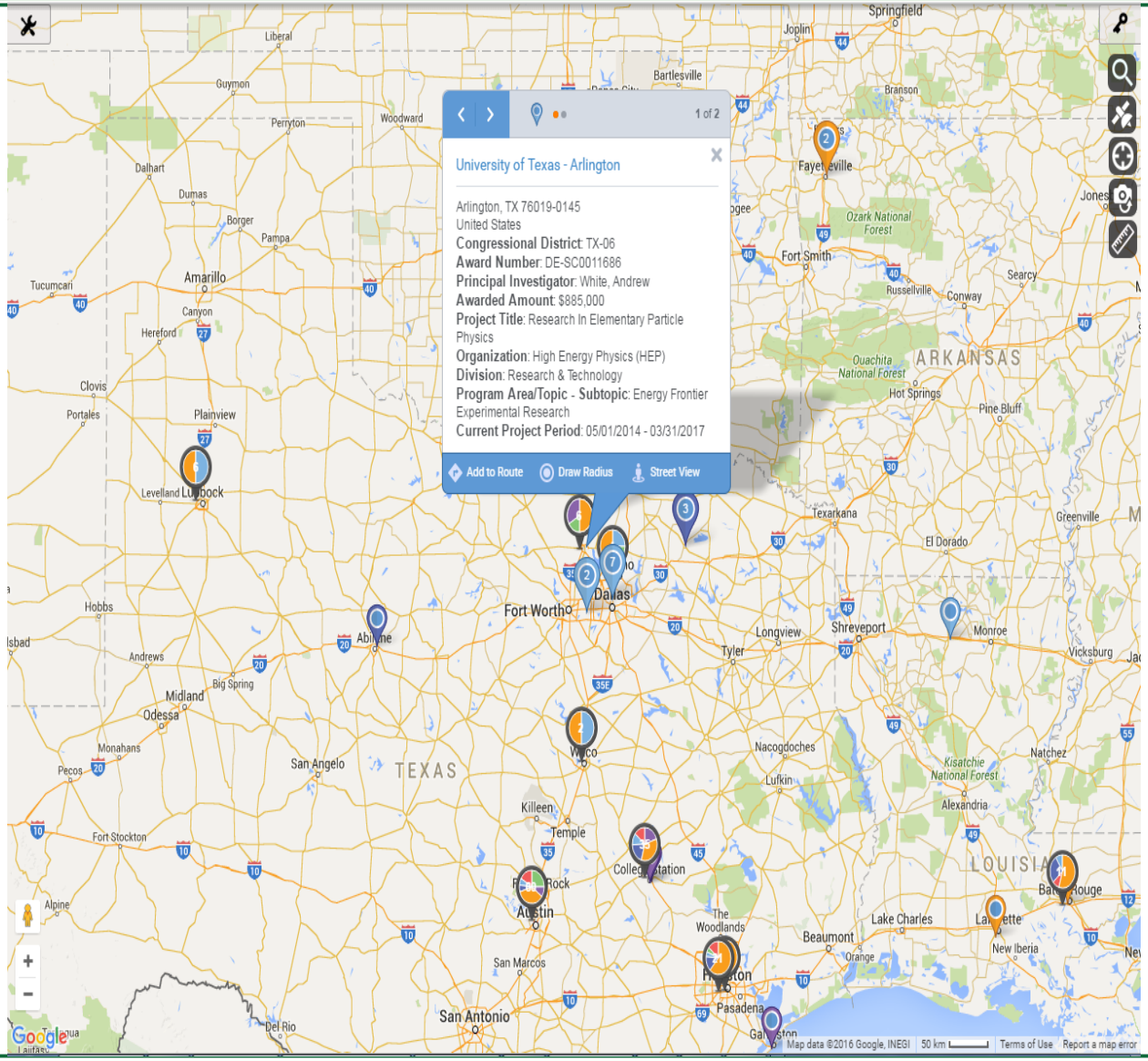
- **User Statistics**
  - Review of FY13-14 institution level statistics
  - FY2015 project level statistics (NOW LIVE!)
- **Lessons Learned**
  - Issues in Data Curation
  - Information Standards
  - Business Intelligence and Data Platforms
- **Outlook ahead and key takeaways**

# FY2013 and FY2014 User Statistics

- **Initiative worked through the SC User Facilities Working Group and engagement with the SC User Facilities over two years.**
  - Defined user: Onsite/Remote/Data
  - Articulated user statistics collection practices
- **For these two years, user data was aggregated by institution.**

# User Statistics Map

# Interactive Grants Map



# Feedback

- **Internal**
- **External**
  - Publications
  - Energy Sciences Coalit
  - National Lab Science Day on the Hill

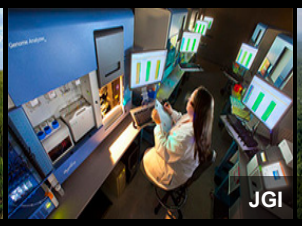
Starting from the left, SLAC director Chi Chang Kao, Representative Randy Hultgren (R-IL), Senator Mark Warner (D-VA), Senator James Risch (R-ID), Energy Secretary Ernest Moniz, Representative Bill Foster (D-IL) explore the interactive user statistics map demonstrated by Chris Smith (far right) at National Lab Science Day on the Hill. (Credit: Argonne National Laboratory)

# FY 2015
# 28 user facilities

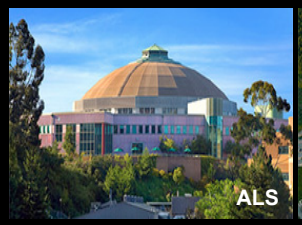




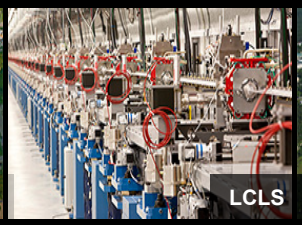










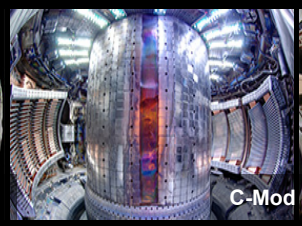




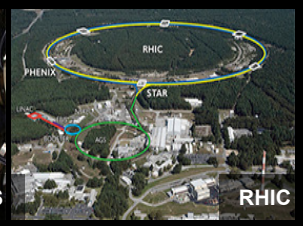


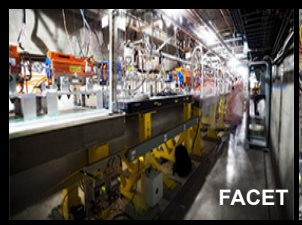


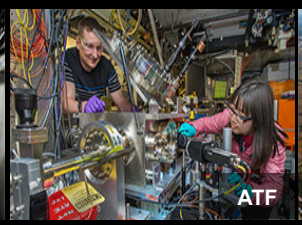


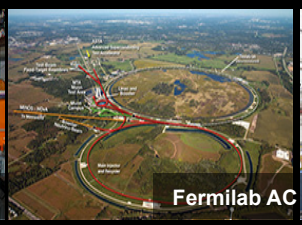








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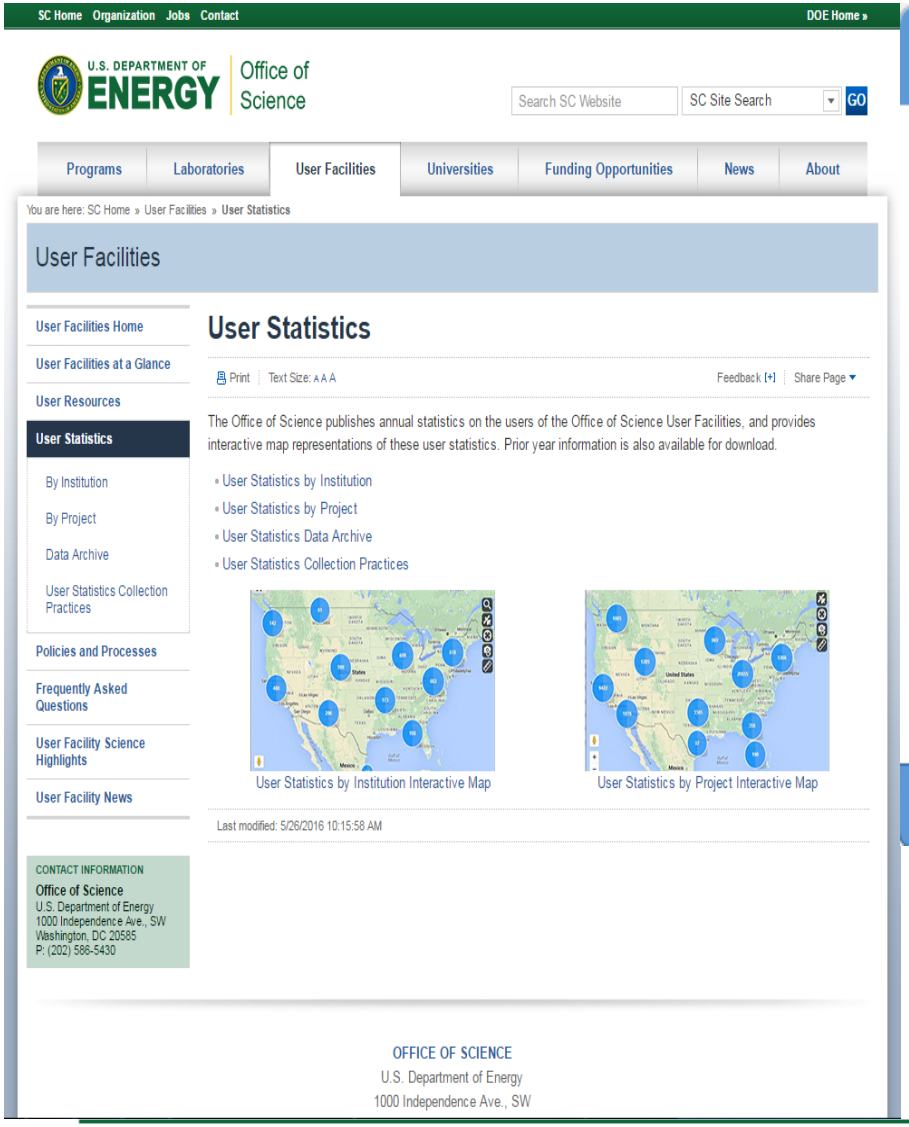
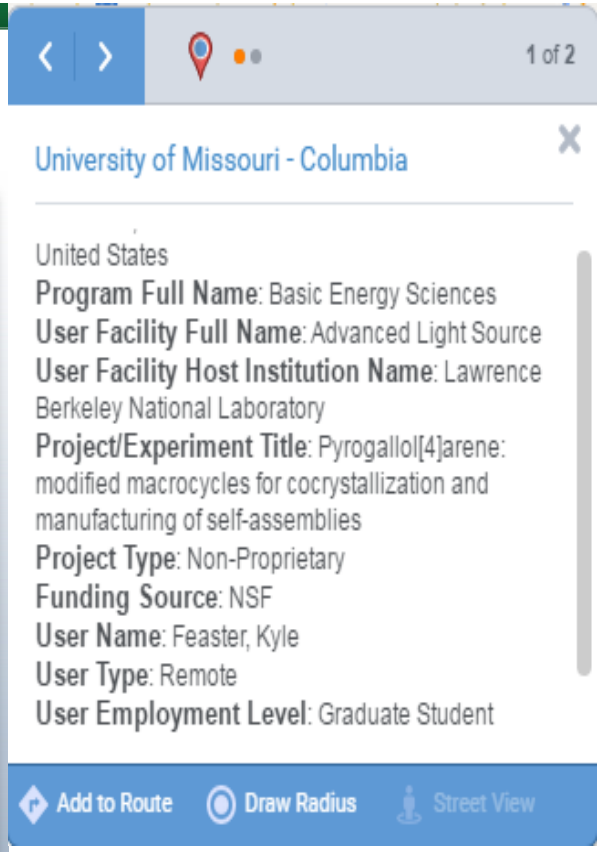
# User Statistics: Project Level

- **FY13/14 vs. FY15?**
  - Project Title
  - User Name
  - Funding Source
  - Employment Level (categories borrowed from BES survey)
  - User Type (On-Site vs. Remote)

# FY2015 User Statistics

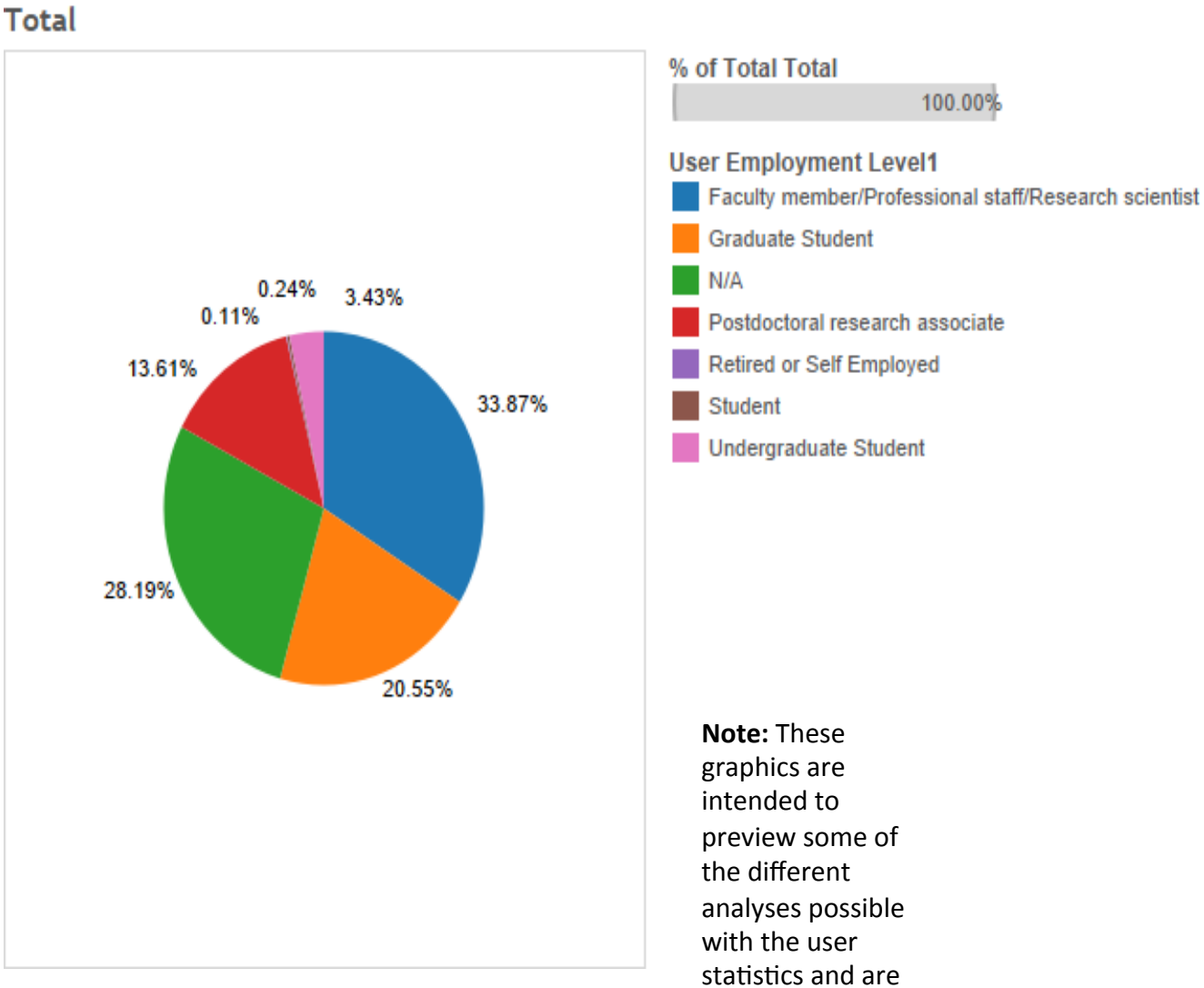



https://fortress.maptive.com/ver4/doescusersbyinstitutionfy2015

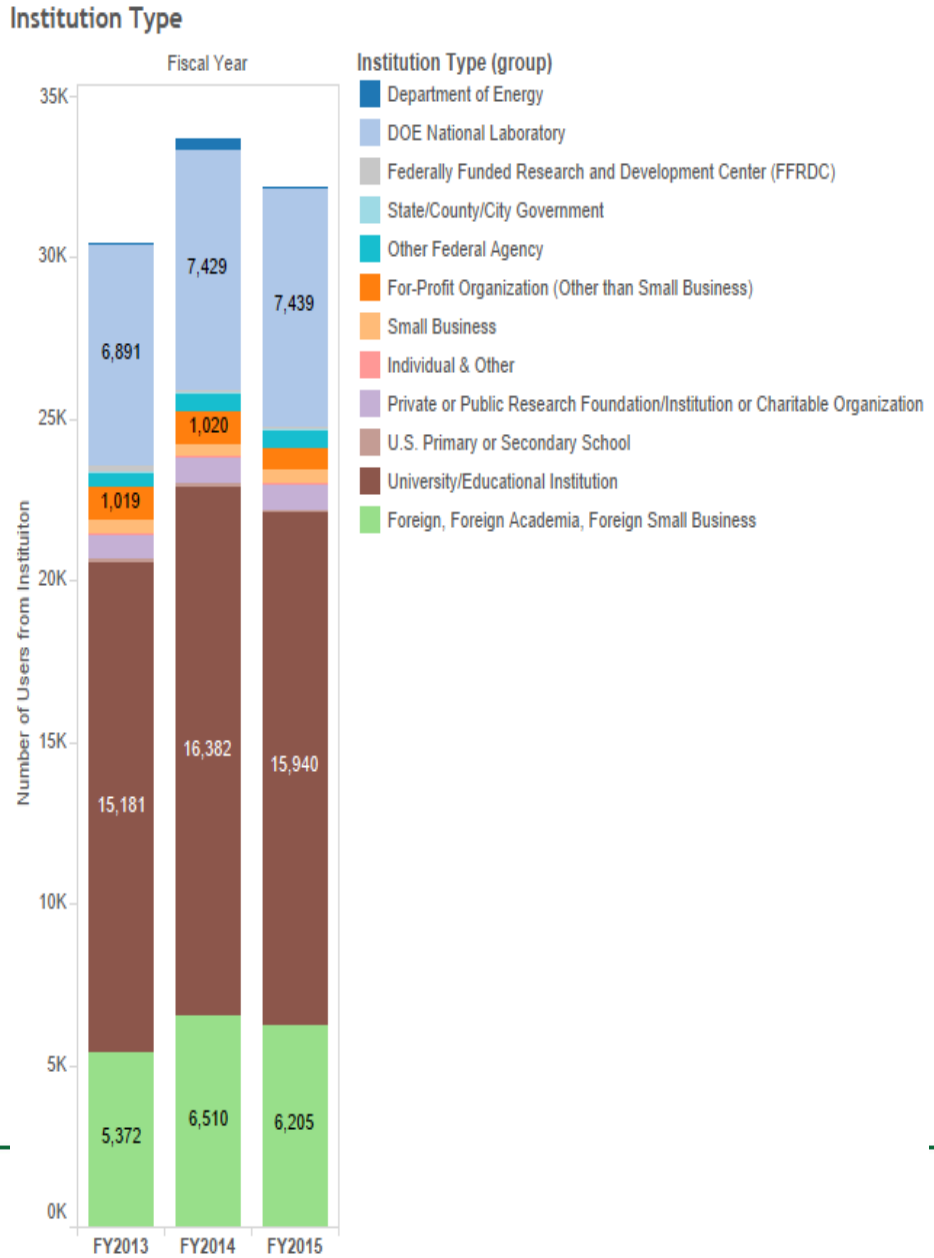
https://fortress.maptive.com/ver4/doescusersbyprojectfy2015

# FY2015 User Statistics Analysis – Employment Level




**Note:** These graphics are intended to preview some of the different analyses possible with the user statistics and are not final versions.

# FY2015 User Statistics Analysis – Institution Types

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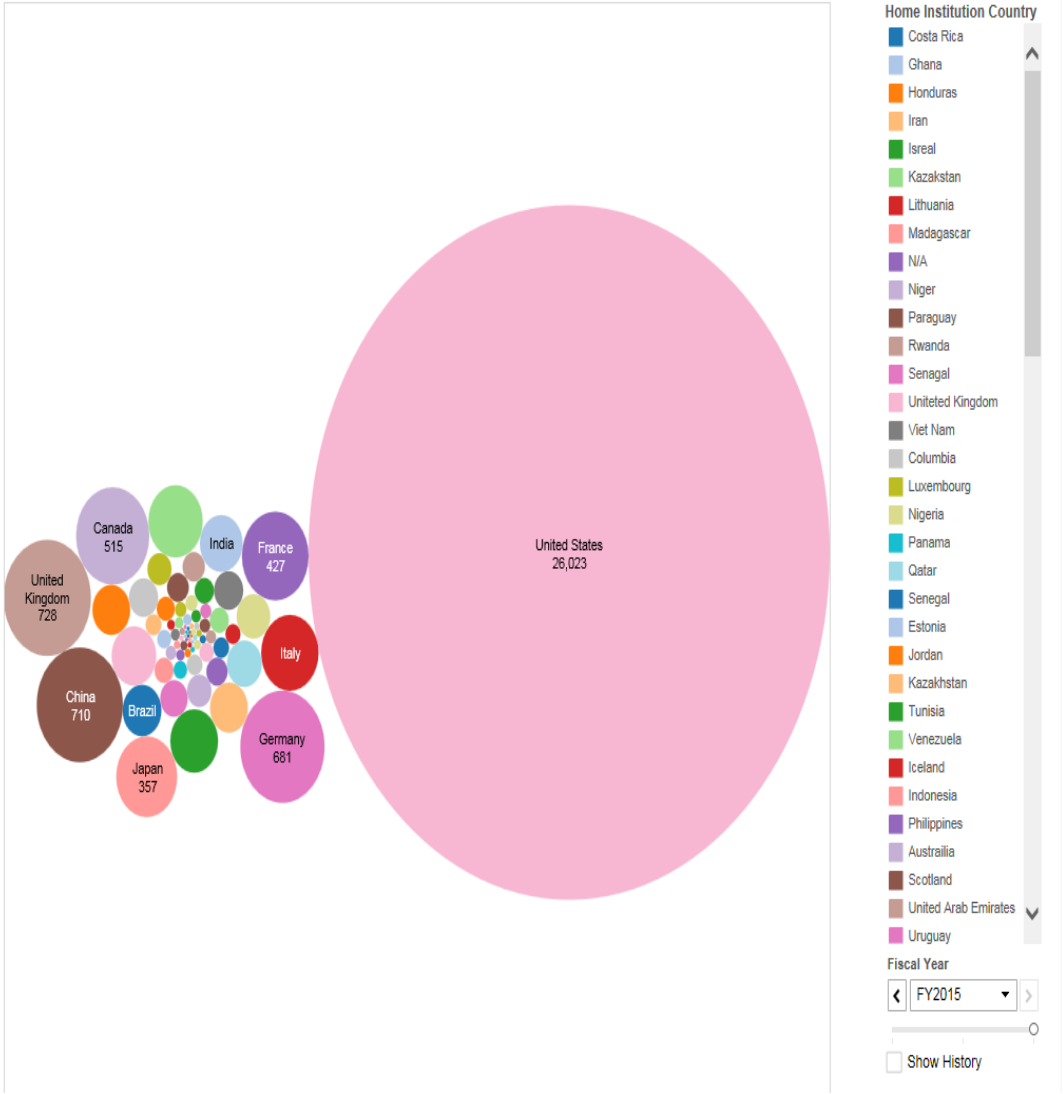
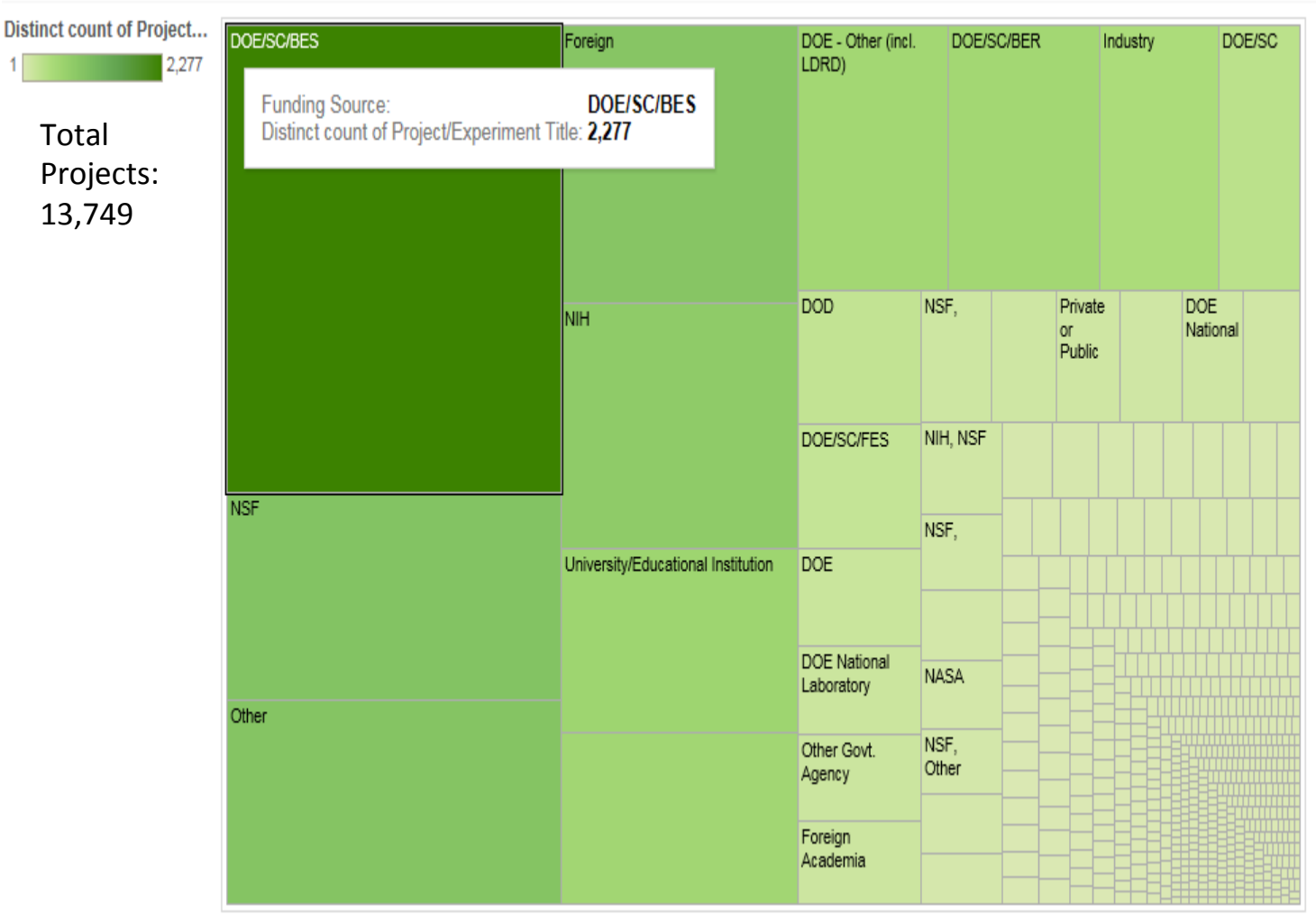
# FY2015 User Statistics Analysis – Institutions and Users by Countries




**Note:** These graphics are intended to preview some of the different analyses possible with the user statistics and are not final versions.

# FY2015 User Statistics Analysis – Funding Sources




**Note:** These graphics are intended to preview some of the different analyses possible with the user statistics and are not final versions.

# FY2015 User Statistics Analysis – User Crossover

**FY 2015 Office of Science User Facilities -- user crossover analysis, June 2nd, 2016**

Each element in the matrix represents the number of users that used the two facilities in that column and row. The data presented here should be interpreted as a lower bound as some facilities were not able to provide information that would have enhanced the accuracy of the analysis. Users were matched first according to email address; for those without email address, an attempt was made to resolve according to full name and institutional affiliation. Columns with a red box are the facilities that did not provide a complete record of user email addresses.

| | Alcator C-M | ALCF | ALS | APS | ARM | ATF | ATLAS | CEBAF | CFN | CINT | CNM | CNMS | DIII-D | EMSL | Esnet | FACET | Fermilab A | HFIR | JGI | LCLS | NERSC | NSLS-II | NSTX-U | OLCF | RHIC | SNS | SSRL | TMF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Alcator C-Mod | 224 | 2 | 1 | | | | | | | | | | 48 | | | | | | | | 40 | | 35 | 2 | | | | |
| ALCF | 2 | 990 | 4 | 18 | 9 | | 1 | 5 | 2 | 3 | 15 | | 3 | 12 | 1 | 1 | 10 | 3 | | 4 | 281 | | 2 | 169 | 2 | 4 | 3 | 2 |
| ALS | 1 | 4 | 2560 | 286 | 13 | | | 6 | 6 | 9 | 8 | 4 | | 18 | | | 2 | 13 | 2 | 65 | 90 | 5 | | | 1 | 15 | 223 | 96 |
| APS | | 18 | 286 | 5471 | | | 8 | 14 | 19 | 8 | 154 | 29 | | 19 | | 2 | 5 | 77 | 3 | 77 | 26 | 25 | 1 | 1 | | 163 | 183 | 5 |
| ARM | | 9 | 13 | | 1121 | | | 2 | | | | | | 23 | | | 2 | | | | 71 | | | 15 | | | 3 | |
| ATF | | | | | | 75 | | 1 | | | | | | | | 10 | | | | | 4 | | | | 2 | | | |
| ATLAS | | 1 | | 8 | | | 392 | 5 | | 1 | 5 | | | | | | | | | | 3 | | | 1 | | | | |
| CEBAF | | 5 | 6 | 14 | 2 | 1 | 5 | 1510 | 1 | 1 | 7 | 3 | | 3 | | | 36 | 2 | | 1 | 44 | | | 14 | 29 | 7 | 4 | 1 |
| CFN | | 2 | 6 | 19 | | | | 1 | 493 | 1 | 2 | 3 | | 1 | | | | 3 | | 1 | 19 | 12 | | 2 | | 3 | 3 | 2 |
| CINT | | 3 | 9 | 8 | | | 1 | 1 | 1 | 502 | | 9 | | | | | | 2 | | | 6 | 1 | | 4 | | 2 | 8 | 2 |
| CNM | | 15 | 8 | 154 | | | 5 | 7 | 2 | | 529 | | | 2 | | | 4 | 2 | | 4 | 16 | 2 | | | 1 | | 8 | 1 |
| CNMS | | | 4 | 29 | | | | 3 | 3 | 9 | | 575 | | | | 1 | 1 | 29 | 1 | | 16 | | | 3 | | 74 | 1 | 2 |
| DIII-D | 48 | 3 | | | | | | | | | | | 557 | | | | 1 | | | | 86 | | 87 | 14 | | | | 1 |
| EMSL | | 12 | 18 | 19 | 23 | | | 3 | 1 | | 2 | | | 713 | | | 2 | 2 | 39 | | 64 | | | 13 | | 3 | 12 | 3 |
| Esnet | | 1 | | | | | | | | | | | | | 48 | | | | | | 2 | | | | | | | |
| FACET | | 1 | | 2 | | 10 | | | | | | 1 | | | | 148 | 1 | | | 3 | 10 | | | | | 1 | 3 | |
| Fermilab AC | | 10 | 2 | 5 | 2 | | | 36 | | | 4 | 1 | 1 | 2 | | 1 | 1924 | | 2 | 1 | 45 | | 3 | 4 | 81 | 3 | 2 | 2 |
| HFIR | | 3 | 13 | 77 | | | | 2 | 3 | 2 | 2 | 29 | | 2 | | | | 492 | 2 | 2 | 4 | | | 3 | | 235 | 7 | |
| JGI | | | 2 | 3 | | | | | | | | 1 | | 39 | | | 2 | 2 | 957 | 1 | 8 | | | | | 1 | 2 | |
| LCLS | | 4 | 65 | 77 | | | | 1 | 1 | | 4 | | | | | 3 | 1 | 2 | 1 | 829 | 14 | 3 | | 1 | | 1 | 93 | |
| NERSC | 40 | 281 | 90 | 26 | 71 | 4 | 3 | 44 | 19 | 6 | 16 | 16 | 86 | 64 | 2 | 10 | 45 | 4 | 8 | 14 | 6332 | 2 | 41 | 304 | 142 | 13 | 14 | 30 |
| NSLS II | | | 5 | 25 | | | | | 12 | 1 | 2 | | | | | | | | | 3 | 2 | 95 | | | | 1 | 6 | 1 |
| NSTX-U | 35 | 2 | | 1 | | | | | | | | | 87 | | | | 3 | | | | 41 | | 356 | 4 | | | | |
| OLCF | 2 | 169 | | 1 | 15 | | 1 | 14 | 2 | 4 | | 3 | 14 | 13 | | | 4 | 3 | | 1 | 304 | | 4 | 1107 | 1 | 4 | | |
| RHIC | | 2 | 1 | | | 2 | | 29 | | | 1 | | | | | | 81 | | | | 142 | | | 1 | 1015 | 1 | | |
| SNS | | 4 | 15 | 163 | | | | 7 | 3 | 2 | | 74 | | 3 | | 1 | 3 | 235 | 1 | 1 | 13 | 1 | | 4 | 1 | 843 | 7 | |
| SSRL | | 3 | 223 | 183 | 3 | | | 4 | 3 | 8 | 8 | 1 | | 12 | | 3 | 2 | 7 | 2 | 93 | 14 | 6 | | | | 7 | 1626 | 31 |
| TMF | | 2 | 96 | 5 | | | | 1 | 2 | 2 | 1 | 2 | 1 | 3 | | | 2 | | | | 30 | 1 | | | | | 31 | 677 |
| Total Crossover Use | 128 | 556 | 867 | 1123 | 138 | 17 | 24 | 186 | 80 | 57 | 231 | 176 | 240 | 216 | 3 | 32 | 207 | 386 | 61 | 271 | 1395 | 58 | 173 | 559 | 260 | 538 | 613 | 179 |
| Percentage from to | 57.14% | 56.16% | 33.87% | 20.53% | 12.31% | 22.67% | 6.12% | 12.32% | 16.23% | 11.35% | 43.67% | 30.61% | 43.09% | 30.29% | 6.25% | 21.62% | 10.76% | 78.46% | 6.37% | 32.69% | 22.03% | 61.05% | 48.60% | 50.50% | 25.62% | 63.82% | 37.70% | 26.44% |

**Total Users:** 32161

# Data Synthesis & Curation Challenges

- **User Identifiers**
  - Email addresses are not always effective at resolving individual users
- **Standardization & Normalization**
  - Institution Names
  - Institution Addresses
  - Institution Types
  - Funding Sources

# Information Standards

- **ORCiD**
- **Funding Agency**
- **Institution profiles**
  - Names
  - Addresses
  - Geocoordinates
  - Institution types
  - Industrial categorization

# Open letter from publishers

- https://orcid.org/content/requiring-orcid-publication-workflows-open-letter

## Requiring ORCID in Publication Workflows: Open Letter

***Major publishers have committed to requiring ORCID iDs in the publishing process for their journals and invite other publishers to do the same.***

*In November, 2015, a group of publishers asked ORCID to help facilitate communications about their plans to require authors to use an ORCID iD, including hosting this open letter explaining their rationale, developing best practices for using iDs in publishing, and maintaining the signatory list. The publishers' goal is to encourage others to join them in supporting the adoption of ORCID. Publishers signing this open letter are committing to requiring ORCID iDs during 2016 following specific implementation standards.*

### Why Require ORCID?

ORCID provides a digital name – or iD – that uniquely and persistently identifies researchers and contributors. By connecting this iD to different research activities and affiliations across multiple research information platforms, ORCID helps enable recognition and reduce reporting burdens for researchers. It also enhances the discovery process and lays the foundation for trust in a digital research environment. Crossref's recently launched Auto-Update functionality – which (with researcher permission) updates an author's ORCID record when the author uses their iD during the publishing process – further benefits researchers by alleviating the need to re-enter publication data in multiple systems. Importantly, it also provides an independent assertion of the connection between the author and their work.

With more than 3,000 journals already collecting ORCID iDs from corresponding authors, through all major manuscript submission systems, publishers are in a unique position to facilitate widespread adoption of ORCID. Indeed, researchers are most likely to encounter ORCID in publishing systems: about 75% of registrations occur because journals are asking authors to include their ORCID in new submissions. Researchers are also increasingly encountering ORCID in their university systems, and funders including the Wellcome Trust and EMBO have begun to require the use of ORCID in grant application systems.

# ORCiD Members
















# ORCiD – Federal Use


- Optional field with Graduate Research Fellowship Program profiles
- Optional field in Fastlane


- SciENcv
- PubMed


- Optional field in E-Link, SciTech Connect

# Funding Agencies

- **How to analyze with multiple funding sources?**

# Institution Profiles

- **Names**
  - U.S. Dept. of Education Accredited Institution list of colleges and universities
  - Hoovers
  - Crossref
  - ORCID?
- **Location**
  - Addresses
  - Geocoordinates
- **Institution types**
  - PAMS
- **Industrial categorization**
  - OTT
  - NAICS codes

# Business Intelligence and Data Platforms

- **Assessing various tools BI tools, cloud platforms, or separate architecture which can allow for data synthesis and analysis**
- **We are continuing to learn and do research and would appreciate your insights.**

# Outlook

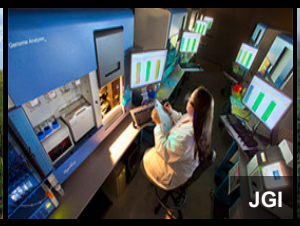
- **Considering building a data-ingestion portal/tool**
- **We think this tool could facilitate communication/ interaction between key stakeholders who wrestle with user statistics**
- **Feedback and engagement is very important**
- **Information Standards**

# FY 2016
# 28 user facilities

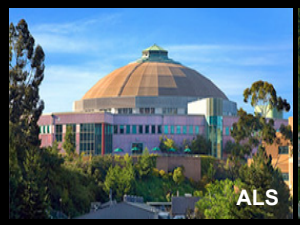




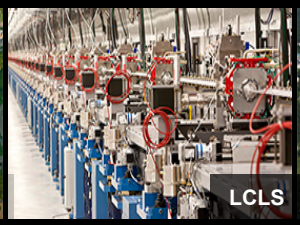










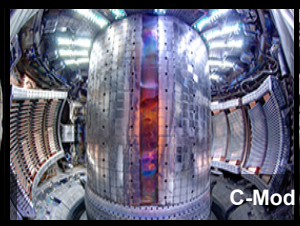




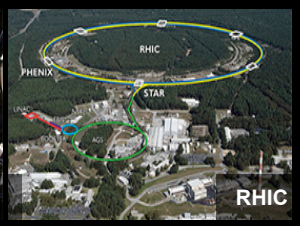


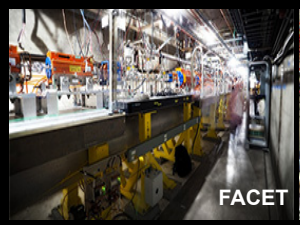


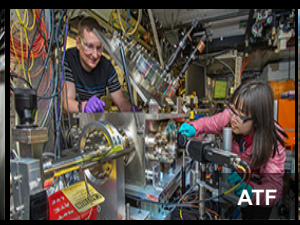


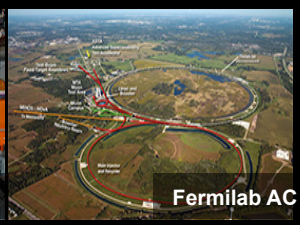








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# Questions?

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